

## REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow. This amendment adds, changes and deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claims remain under examination in the application, is presented, with an appropriate defined status identifier.

Claims 2-3, 10, 12, 20, 22, 26, 29 and 32 have been requested to be canceled without prejudice.

Claim 1, 5-7, 17 and 30 are currently being amended.

Claim 37 has been added. (Claim 37 includes the language of canceled Claim 3; no new matter has been added).

After amending the claims as set forth above, Claims 1, 4-9, 11, 13-19, 21, 23-25, 27-28, 30-31 and 33-37 are now pending in this application.

### **Statement of Substance of Examiner Interview**

In accordance to 37 C.F.R. §1.33(b) and MPEP §713.04, submitted herewith is a record of the substance of the telephonic interview on August 8, 2007, between Examiner Hal Kaplan, the primary examiner and Attorney Kristy Downing, regarding the above-captioned application.

The interview participants discussed the following limitation from previously presented Claim 1:

wherein each cell further comprises a single protection transistor disposed in said second circuit branch and associated with a protection management unit for taking said cell out of service independently of the other cells; and

wherein the protection transistor of each cell is a MOS transistor connected in series in said second circuit branch of the cell between the

inductor and said second positive terminal, and including an intrinsic diode connected to the inductor by its cathode and to said second positive terminal by its anode.

which is recited in Claim 1. The following U.S. Patents were discussed in connection with the above limitation: 6,275,958 to Carpenter et al., 6,160,386 to Hemena et al., 4,412,277 to Mitchell and 5,155,648 to Gauthier. The rejection of previously allowed Claim 3 was also discussed. No exhibits were shown, nor were any demonstrations conducted.

### **Rejection of Previously Allowed Claims**

In Items 5-8 of the Examiner's Office Action of February 01, 2007, the Examiner indicated that Claims 7-11, 13-21, 23-25, 27, 28 and 30-36 were allowable. However, in Items 5-8 of the present Office Action the Examiner rejected Claims 7-11, 13-21, 23-25, 27, 28 and 30-36. During the telephonic interview of August 8, 2007, the undersigned confirmed that the rejection was approved by the primary examiner in accordance with MPEP § 706.04 and § 1308.01.

### **Rejections under 35 U.S.C. § 103(a)**

In Items 3-6 of the Office Action the Examiner rejected Claims 1, 4-11, 13-21, 23-25, 27, 28, and 30-36 as being obvious over U.S. Patent No. 6,275,958 titled "Fault Detection in a Redundant Power Converter" issued on August 14, 2001 to Carpenter ("Carpenter") in view of U.S. Patent No. 6,160,386 titled "Parallel Power System Which Includes Over Voltage Protection" issued on December 12, 2000 to Hemena et al. ("Hemena") in view of U.S. Patent No. 4,412,277 titled "AC-DC Converter Having an Improved Power Factor" issued on October 25, 1983 to Mitchell ("Mitchell") in view of U.S. Patent No. 5,155,648 titled "Device for Protecting A Direct Current Electrical Power Supply From Disturbances Caused by Connective

to it or Disconnecting From It An Electronic System” issued on October 13, 1992 to Gauthier (“Gauthier”) under 35 U.S.C. §103(a).<sup>1</sup>

#### **A. Claims 1, 4-6**

On pages 4-5 of the Office Action the Examiner concluded that

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to use a MOS transistor connected in series between the inductor and second positive terminal of Carpenter, and including an intrinsic diode connected to the inductor by its cathode and to the second positive terminal by its anode, in order to prevent current flow to the load (CPU) when there is supposed to be no load current.

Mitchell is directed to an AC/DC converter and discloses a MOS transistor 17 connected in series with an inductor 9 and an intrinsic diode 21 connected to the inductor by its cathode (col. 2, line 22 – col. 3, line 36). Claim 1 (as amended) is in independent form and recites

A DC/DC voltage converter...

wherein the protection transistor of each cell is a MOS transistor connected in series in said second circuit branch of the cell between the inductor and said second positive terminal, and including an intrinsic diode having an anode and a cathode connected to the inductor, the anode connected to said second positive terminal.

The “intrinsic diode connected to the inductor by its cathode and to said second positive terminal by its anode” as recited in independent Claim 1 (as amended) would not have been obvious to a person of ordinary skill in the art. One of ordinary skill in the art would not be motivated to combine the converter taught in Carpenter with the rectifier taught in Mitchell because (i) the Mitchell rectifier does not provide the recited protective function and (ii) there would be no

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<sup>1</sup> A proper rejection under 35 U.S.C. § 103(a) requires that the Examiner establish *prima facie* obviousness. As recited in the MPEP, “[t]he examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.” MPEP § 2142. Three basic criteria must be met to establish *prima facie* obviousness. MPEP § 2143. First, there must be some suggestion or motivation to modify a reference or combine teachings. *Id.* Second, there must be reasonable expectation of success. *Id.* Third, the prior art reference or references must teach or suggest all the claim limitations. *Id.*

reasonable expectation of success in their combination. Mitchell is drawn to an AC/DC converter and discloses a MOS transistor 17 connected in series with an inductor 9 and an intrinsic diode 21 connected to the inductor by its cathode. Both MOS transistors 17 and 19 of Mitchell are part of a rectifier 7 that converts AC current to DC but does not provide the recited protective function. Indeed, Mitchell is completely unrelated to the DC/DC converter function as recited in Claim 1. Therefore, a person of ordinary skill in the art would not be motivated to combine the rectifier of Mitchell with the converter of Carpenter for the reason offered by the Examiner as the rectifier does not provide the proffered benefit, i.e. the recited protective function.

Additionally, Mitchell teaches “an AC to DC converter”. *See e.g.*, Mitchell Abstract. Applicants claim a “DC/DC voltage converter”. If one were to combine the teachings of Mitchell with Carpenter the outcome would not be a DC/DC voltage converter as Applicants’ claim but some form of an AC/DC converter. The converters presented in the Mitchell and Carpenter references are incompatible and would not yield a DC/DC converter. Not only is there a lack of motivation to combine the two references but there is a lack of a reasonable expectation that their combination would be successful as required by MPEP § 2143.02. Amended Claim 1 is allowable. Applicants respectfully submit that one of ordinary skill in the art would not seek a component from an AC/DC converter – a device that has a very different function. Also, Claims 4-6 are allowable for at least the reasons articulated with respect to Claim 1. Therefore, it is respectfully requested that the rejection of Claims 1 and 4-6 be withdrawn.

Independent Claims 7, 17 and 30 have been amended to recited the single protection component/transistor comprises an intrinsic diode. At least for the reasons articulated with respect to Amended Claim 1 it is believed that Amended Claims 7, 17 and 30 are patentable.

### **Conclusion**

It is submitted that each outstanding rejection has been overcome, and that the application is in condition for allowance. Applicants request consideration and allowance of all pending Claims 1, 4-9, 11, 13-19, 21, 23-25, 27-28, 30-31 and 33-37.

The Applicants expressly withdraw any and all claim amendments and remarks made in connection with any related patent application. The Applicants do not intend any prior claim amendment or remark in any related application to have any effect on the prosecution or scope of any claim in the present Application.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by the credit card payment instructions in EFS-Web being incorrect or absent, resulting in a rejected or incorrect credit card transaction, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741.

If any extensions of time are needed for timely acceptance of papers submitted herewith,  
Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorizes payment of  
any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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